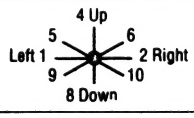
INTERACT™ LEVEL II BASIC LANGUAGE REFERENCE CARD

NOTE: Statements may be issued as Direct Mode commands except where otherwise noted. Function returns should be printed and/or assigned to variables.

STATEMENT	EFFECT	USAGE EXAMPLE	RESULT
ABS	Returns argument as positive value.	10 PRINT ABS(6) ; ABS(−6); ABS(3*2)· ABS(2*−3)	6 6 6 6
AND	Bitwise Boolean AND on 2 arguments.	10 PRINT 50 AND 26	18
ASC	Returns ASCII decimal code for string character.	10 A$="WHITE": PRINT ASC ("W"); ASC (A$)	87 87
ATN	Returns arctangent of argument in radians.	10 PRINT ATN (.305669)	.29665
CHR$	Returns string character of ASCII code argument.	10 PRINT CHR$(87)	W
CLEAR	Sets variables to zero. With integer argument, sets string space to value of the expression.	10 A=6:B=8:PRINT A;B: CLEAR: PRINT A;B	6 8 0 0
CLOAD*	Loads data from tape into named array.	10 DIM A(9): CLOAD* A	10 elements of A loaded from cassette
CLS	Clears TV screen	10 CLS	Clears screen
COLOR	Selects palette of four colors for plotting. First number gives background color. Subsequent color reference by position in COLOR array (0–3). CODES: 0=Black, 1=Red, 2=Green, 3=Yellow, 4=Blue, 5=Magenta, 6=Cyan, 7=White.	10 COLOR 4,7,3,1	Blue background (color 0). Color 1=White, 2=Yellow, 3=Red.
COS	Returns cosine of argument in radians.	10 PRINT COS(.29665)	.956321
CSAVE*	Saves data in named array on tape. Depress READ and WRITE cassette buttons prior to execution.	10 INPUT "READY"; Q 20 CSAVE* A	Data from array A loaded onto tape after user types in a cue.
DATA	Provides data to be read by READ statement.	See READ	
DEF[1]	Defines user function.	10 DEF FNB(X)=X*X:X=4: PRINT FNB(X)	16
DIM	Reserves space in memory for arrays. First position referenced using 0 subscript.	10 DIM A(6),B$(6, 4)	Reserves 7 locations for array A, 7 by 5 string matrix for B$
END[1]	Marks end of program. Use is optional if highest numbered line of program is last executable statement.	10 END	Halts program execution
EXP	Returns antilogarithm to base e of argument.	10 PRINT EXP(2.83321)	16.9999
FIRE	FIRE(0) reads left hit button. FIRE (1) reads right hit button. Function returns 0 if button pressed, 1 if not.	10 IF FIRE(0)=0 THEN GOSUB 20: STOP 20 PRINT "HI": RETURN	Prints "HI", stops if left button is pressed.
FOR . . . STEP	Establishes multiple iteration program loop. STEP default is 1. See also NEXT.	10 FOR I=2 TO 10 STEP 2: PRINT I; :NEXT I	2 4 6 8 10
FRE	With numeric argument, returns available RAM in bytes. With string argument, returns free string space in bytes.	10 PRINT FRE(0) 20 PRINT FRE("A")	3245 40
GOSUB	Executes sub-program beginning at given line number. See also RETURN.	10 PRINT "WHITE"; : GOSUB 20:STOP 20 PRINT "SOX": RETURN	WHITESOX BREAK IN 10
GOTO	Causes jump in program execution to specified line number.	10 PRINT "WHITE"; :GOTO 30 20 PRINT "STOP": STOP 30 PRINT "SOX": GOTO 20	WHITESOX STOP BREAK IN 20
IF. . . GOTO	Makes relational test; if outcome is "true", causes jump in program execution to line number following GOTO.	10 PRINT "WHITE"; :IF 2<3 GOTO 30 20 PRINT "STOP": STOP 30 PRINT "SOX": GOTO 20	WHITESOX STOP BREAK IN 20
IF. . .THEN	Makes relational test; if outcome is "true", performs statements following THEN.	10 IF 2<3 THEN PRINT "LESS": STOP 20 PRINT "GREATER"	LESS BREAK IN 10
INPUT[1]	Obtains data from keyboard.	10 INPUT "NUMBER, PLEASE"; A 20 PRINT A	NUMBER, PLEASE? 76 76
INSTR$	Waits for keyboard input of number of characters specified by argument. Provides no prompt, does not require carriage return to terminate input, does not affect screen. Returns input as string.	10 A$=INSTR$(2) 20 IF A$="HI" GOTO 50	Executes line 20 after 2 keys pressed. If keys were "H", "I", branches to line 50. Does not affect screen.
INT	Returns largest integer ≤ argument.	10 PRINT INT(3.14159) 20 PRINT INT(−3.14159)	3 −4
JOY	JOY(0) reads left joystick position. JOY(1) reads right joystick. Function returns codes as shown at right.		
LEFT$	Isolates leftmost characters of string, given number of characters to isolate.	10 PRINT LEFT$("WHITESOX",5)	WHITE
LEN	Returns length of string.	10 PRINT LEN ("WHITESOX")	8
LET	Makes assignment to variables. Use of LET keyword is optional.	10 LET A=2: B=3: PRINT A*B	6
LOG	Returns logarithm to base e of argument.	10 PRINT LOG (17)	2.83321
MID$	Isolates middle characters of string, given starting position from left, number of characters to isolate.	10 PRINT MID$ ("WHITESOX",2,3)	HIT

[1]Not used in Direct Mode

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STATEMENT	EFFECT	USAGE EXAMPLE	RESULT
NEXT	Endpoint of multiple iteration program loop initiated by FOR statement.	See FOR . . . STEP	
NOT	Bitwise complement of one argument.	10 PRINT NOT (−1)	0
ON ... GOSUB	ON argument selects starting line number of subroutine from list for execution of sub-program. See also RETURN.	10 A=2: ON A GOSUB 20,30,40:STOP 20 PRINT "FIRST POSITION":RETURN 30 PRINT "SECOND POSITION":RETURN 40 PRINT "THIRD POSITION":RETURN	SECOND POSITION BREAK IN 10
ON . . . GOTO	ON argument selects line number from list for program execution jump.	10 A=2: ON A GOTO 20,30,40 20 PRINT "1": STOP 30 PRINT "2": STOP 40 PRINT "3": STOP	2 BREAK IN 30
OR	Bitwise Boolean OR on 2 arguments.	10 PRINT 50 OR 26	58
OUTPUT	Displays argument value at given x,y location on screen using color defined by given COLOR array position.	10 COLOR 4,7,3,1 20 OUTPUT "HI", 80,50,2	Displays "HI" in yellow at (80,50) on blue screen.
PLOT	Plots point at given x,y screen coordinates using color defined by given color array position. $0 \leq X \leq 112$, $0 \leq Y \leq 77$.	10 COLOR 4,7,3,1 20 PLOT 80,50,1	Plots white dot at (80,50) on blue screen.
POINT	Returns COLOR array position identifying color currently plotted at specified x,y location.	10 COLOR 4,7,3,1 20 PLOT 60,40,2 30 PRINT POINT(60,40)	2
POS	Returns line position where next character will be displayed.	10 PRINT "WHITE";: A=POS(0): PRINT "SOX"; A	WHITESOX 5
POT	POT(0) reads left joystick knob. POT(1) reads right knob. Returns value between 0 and 255.	10 L=POT(0) 20 R=POT(1)	Value of left knob assigned to L, value of right knob to R
PRINT	Outputs data to TV. Semi-colon suppresses spaces between output items.	10 A=6: PRINT "2"; 2*A; A	2 12 6
READ	Assigns values to variables from DATA statements.	10 READ A,B: PRINT A*B 20 DATA 2,3	6
REM	Programmer comment. Nothing is output.	10 REM THIS IS A REMARK: PRINT "WHITE"	
RESTORE	Returns pointer to first DATA item in program.	10 READ A,B: PRINT A*B;: RESTORE: READ A,B: PRINT A+B 20 DATA 2,3,4,5,6	6 5
RETURN[1]	Terminates subroutine and returns control to statement following GOSUB.	See GOSUB	
REWIND	Repositions tape. Depress REW or FFWD tape button. Signal finish by pressing any keyboard key.	10 REWIND	Repositions tape
RIGHT$	Isolates rightmost characters of string, given number of characters to isolate.	10 PRINT RIGHT$("WHITESOX",3)	SOX
RND	Returns pseudo-random number between 0 and 1. Argument specifies new seed if <0, repeats last number if =0, next number in sequence if >0.	10 PRINT RND(−1) 20 PRINT RND(0) 30 PRINT RND(1)	6.25305E-02 6.25305E-02 3.93677E-03
SGN	Returns sign of argument.	10 PRINT SGN(−3); SGN(3−3); SGN(3+3)	−1 0 1
SIN	Returns sine of argument in radians.	10 PRINT SIN(.29665)	.292318
SOUND	Generates various sounds depending on argument values. First value must be 0–7, second 1–32767. SOUND 7,4096 turns off any sound.	10 SOUND 0,24844 20 SOUND 3,32 30 SOUND 3,16 40 SOUND 3,0	Siren Low buzz Med. buzz High buzz
SPC	Generates string of number of spaces specified by argument.	10 PRINT "WHITE"; SPC(8); "SOX"	WHITE . . . . . SOX
SQR	Returns square root of argument.	10 PRINT SQR(25)	5
STOP	Causes program execution to stop but may be CONTINUED, unless program modified after stop.	10 PRINT "WHITE": STOP 20 PRINT "SOX"	WHITE BREAK IN IO OK CONTINUE SOX
STR$	Converts numeric argument to string.	10A=76: PRINT STR$(A)+" TROMBONES"	76 TROMBONES
TAB	Argument specifies line position to print next character.	10 PRINT "WHITE"; TAB(8); "SOX"	WHITE..SOX
TAN	Returns tangent of argument in radians.	10 PRINT TAN(.29665)	.305669
TONE	Plays musical tone. First argument proportional to 1/frequency; length proportional to first*second. Avoid negative or large positive arguments.	10 TONE 100,1000	Musical tone lasting about 2 seconds
VAL	Converts string argument to numeric value. Returns 0 if first character is not +, −, ·, digit.	10A$="76": PRINT VAL (A$)	76
WINDOW	Restricts normal screen scrolling to below given y coordinate, $11 \leq y \leq 77$.	10 WINDOW 30	Restricts scrolling to bottom 30 pixels (4 lines of text).

[1]Not used in Direct Mode